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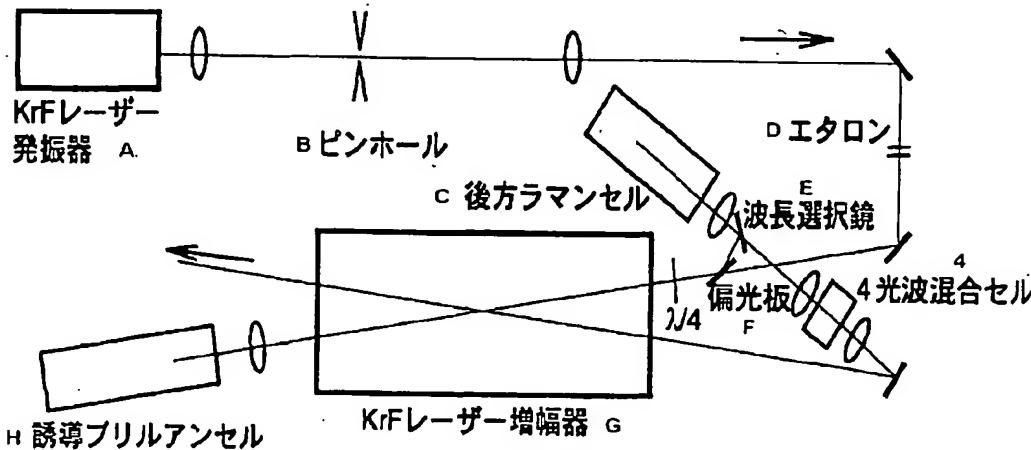
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 (71) 出願人(米国を除く全ての指定国について): 独立行政法人産業技術総合研究所 (NATIONAL INSTITUTE OF ADVANCED INDUSTRIAL SCIENCE AND TECHNOLOGY) [JP/JP]; 〒100-8921 東京都千代田区霞ヶ関1丁目3番1号 Tokyo (JP).

(72) 発明者; および
 (75) 発明者/出願人(米国についてのみ): 高橋栄一 (TAKA-HASHI,Eiichi) [JP/JP]; 〒305-8568 茨城県つくば市梅園1-1-1 中央第2 独立行政法人産業技術総合研究所内 Ibaraki (JP). ロゼフ・レオニード (LOSEV,Leonid) [RU/RU]; 〒305-8658 茨城県つくば市梅園1-1-1 中央第2 独立行政法人産業技術総合研究所内 Ibaraki (JP). 松本裕治 (MATSUMOTO,Yuji) [JP/JP]; 〒305-8568 茨城県つくば市梅園1-1-1 中央第2 独立行政法人産業技術総合研究所内 Ibaraki (JP). 大和田野芳郎 (OWADANO,Yoshiro) [JP/JP]; 〒305-8568 茨城県つくば市梅園1-1-1 中央第2 独立行政法人産業技術総合研究所内 Ibaraki (JP).
 (81) 指定国(国内): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI,

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(54) Title: METHOD AND SYSTEM FOR GENERATING ULRASHORT LASER PULSE

(54) 発明の名称: 超短レーザーパルス発生方法及び装置



A... KrF LASER OSCILLATOR
 B... PINHOLE
 C... REAR RAMAN CELL
 D... ETALON

E... WAVELENGTH SELECTING MIRROR
 F... POLARIZING PLATE
 G... KrF LASER AMPLIFIER
 H... INDUCTION BRILLOUIN CELL
 4... LIGHT WAVE MIXING CELL

(57) Abstract: Contrast is enhanced significantly in front of a laser pulse by converting the wavelength of the laser pulse temporarily into another one using nonlinear optical action, increasing the intensity ratio between a pulse peak and its preceding part and then reconverting the wavelength of the converted laser beam into the original wavelength using nonlinear optical action. At the same time, the laser pulse can be saturation-amplified by a laser amplifier to form an ultrashort pulse. An ultrashort excimer laser pulse is thereby generated without using an expensive mode lock laser.

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NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

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添付公開書類:

一 國際調査報告書

2 文字コード及び他の略語については、定期発行される各PCTガゼットの巻頭に掲載されている「コードと略語のガイドスノート」を参照。

(57) 要約: 本願発明は、レーザーパルスを非線形光学作用を用いて一旦他の波長に変換し時間的なパルスピーカーとその前部に対する強度比を大きくし、その変換されたレーザー光を再び元の波長に非線形光学作用を用いて再変換することによって、該パルスの前方部分のコントラストを著しく高めると同時に用いたレーザー増幅器により増幅することを可能にし、そのパルスを飽和増幅することによって超短パルスを形成する。超短エキシマレーザーパルスの生成において、高価なモードロックレーザーを用いずに、超短エキシマレーザーパルスの生成を行う。

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/12524

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ G02F1/35

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl⁷ G02F1/35, H01S3/00Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-2003
Kokai Jitsuyo Shinan Koho 1971-2003 Jitsuyo Shinan Toroku Koho 1996-2003Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
JICST, INSPEC, esp@cenet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Grasyuk, A.Z. et al., Compression of light pulses by stimulated Raman scattering without a frequency shift, Sov.J.Quantum Electron., Vol.19, No.8, August, 1989, pages 1045 to 1046	1-8
Y	JP 2002-62553 A (National Institute of Advanced Industrial Science and Technology), 28 February, 2002 (28.02.02), (Family: none)	1-8

 Further documents are listed in the continuation of Box C. See patent family annex.

"A"	Special categories of cited documents: document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E"	earlier document but published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 10 December, 2003 (10.12.03)	Date of mailing of the international search report 13 January, 2004 (13.01.04)
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